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The Honorable Federico Peña U.S. Department of Energy 1000 Independence Avenue, SW Washington, DC 20585

Dear Secretary Peña:

Anticipating the President's Committee of Advisors on Science and Technology (PCAST) report, Dr. Terry R. Lash, Director of the Office of Nuclear Energy, Science and Technology (NE), requested our laboratories in June 1997 to assist in the formulation of a nuclear energy research and development (R&D) agenda. As you know, the PCAST has now strongly recommended a US nuclear energy R&D program in order to maintain US influence over global nuclear safety and nonproliferation activities and to maintain nuclear power as a viable energy option. In responding to Dr. Lash's request, we evaluated a number of programmatic options and issues, as well as past and current policies, and developed a set of recommendations for consideration by the Department. We believe these recommendations enhance conclusions from the PCAST report and provide the basis on which to build a credible DOE nuclear energy research program for the start of the 21st century.

The United States is at a critical juncture with regard to nuclear energy R&D, and decisions made now relative to future funding will affect the ability of our nation to play a leading role in energy and national security issues worldwide. Specifically, there are three vital challenges facing the nation with regard to nuclear energy:

- 1. **Continuing US influence** in international technical and policy arenas as other countries implement the nuclear energy option.
- 2. **Maintaining technical competencies** in areas key to nuclear energy and security.
- 3. **Ensuring a viable nuclear energy option** for the nation to address environmental and energy security issues.

To address these challenges, the Department must have a strong nuclear energy R&D portfolio in five key areas:

- Nuclear Energy Basic Research (Joint University/National Laboratory)
- Nuclear Energy R&D to Meet US Carbon Emissions Reduction Goals
- Enhanced Proliferation Resistance of the Nuclear Fuel Cycle
- Cooperative Development of High-Efficiency Nuclear Fuel
- International Nuclear Cooperation

The attached Executive Summary from our report *Recommendations for a Department of Energy Nuclear Energy R&D Agenda* summarizes recommended R&D activities to address these challenges. Additional details can be found in the full report which is currently in draft form but will be sent to you by December 15, 1997.

We endorse the report and offer our services to implement a DOE nuclear energy program that meets the Administration's and the nation's technical needs for continuing the use of nuclear energy into the next century.